

May 20, 2002

Ms. Kristy Chew  
Siting Project Manager  
California Energy Commission  
1516 Ninth Street, MS-15  
Sacramento, CA 95814

RE: Data Responses, Set 1J  
Cosumnes Power Plant (01-AFC-19)

On behalf of the Sacramento Municipal Utility District, please find attached 12 copies and one original of Data Responses, Set 1J, in response to Staff's Data Requests dated December 10, 2001.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.  
Program Manager

c: Colin Taylor/SMUD  
Kevin Hudson/SMUD  
Steve Cohn/SMUD

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# **COSUMNES POWER PLANT (01-AFC-19)**

## **DATA RESPONSE, SET 1J** (Response to Data Request: 30)

Submitted by  
**SACRAMENTO MUNICIPAL  
UTILITY DISTRICT (SMUD)**

May 20, 2002



2485 Natomas Park Drive, Suite 600  
Sacramento, California 95833-2937

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COSUMNES POWER PLANT (01-AFC-19)  
DATA RESPONSES, SET 1J

**Technical Area: Biological Resources**

**CEC Authors:** Melinda Dorin and Rick York

**CPP Author:** EJ Koford and Debra Crowe

**BACKGROUND**

AFC Section 8.2.4.2 (page 8.2-10), states that although California tiger salamanders have been recorded within a mile of the site, none were observed. The AFC also states if any are disturbed within the project site or along the linear facilities, then it would be an insignificant portion of the population. However, the AFC does not contain California tiger salamander field survey results.

**DATA REQUEST**

30. If California tiger salamander surveys were conducted for the project site and all project linears, then please provide the survey results (field survey dates, names and qualifications of biologists, transect spacing, locations and size of elderberry shrubs). If California tiger salamander surveys were not conducted, then conduct the appropriate (DFG protocol) surveys and provide the survey results.

**Response:** A California tiger salamander survey of the plant site and gas line corridor is provided as Attachment BR-30.

**Attachment BR-30**

**COSUMNES POWER PLANT PIPELINE PROJECT**

**AQUATIC AMPHIBIAN AND REPTILE SURVEYS**

**Final Report**

**Prepared for**

**E. J. Koford  
CH2M HILL  
2485 Natomas Park Drive, Suite 600  
Sacramento, CA 95833-2937**

**Prepared by**

**Mark R. Jennings  
RANA RESOURCES  
39913 Sharon Avenue  
Davis, CA 95616-9456  
RanaResources@aol.com**

**And**

**Gretchen E. Padgett-Flohr  
RANA RESOURCES  
5082 Yellowstone Park Drive  
Fremont, CA 94538-3916  
RanaResources@aol.com**

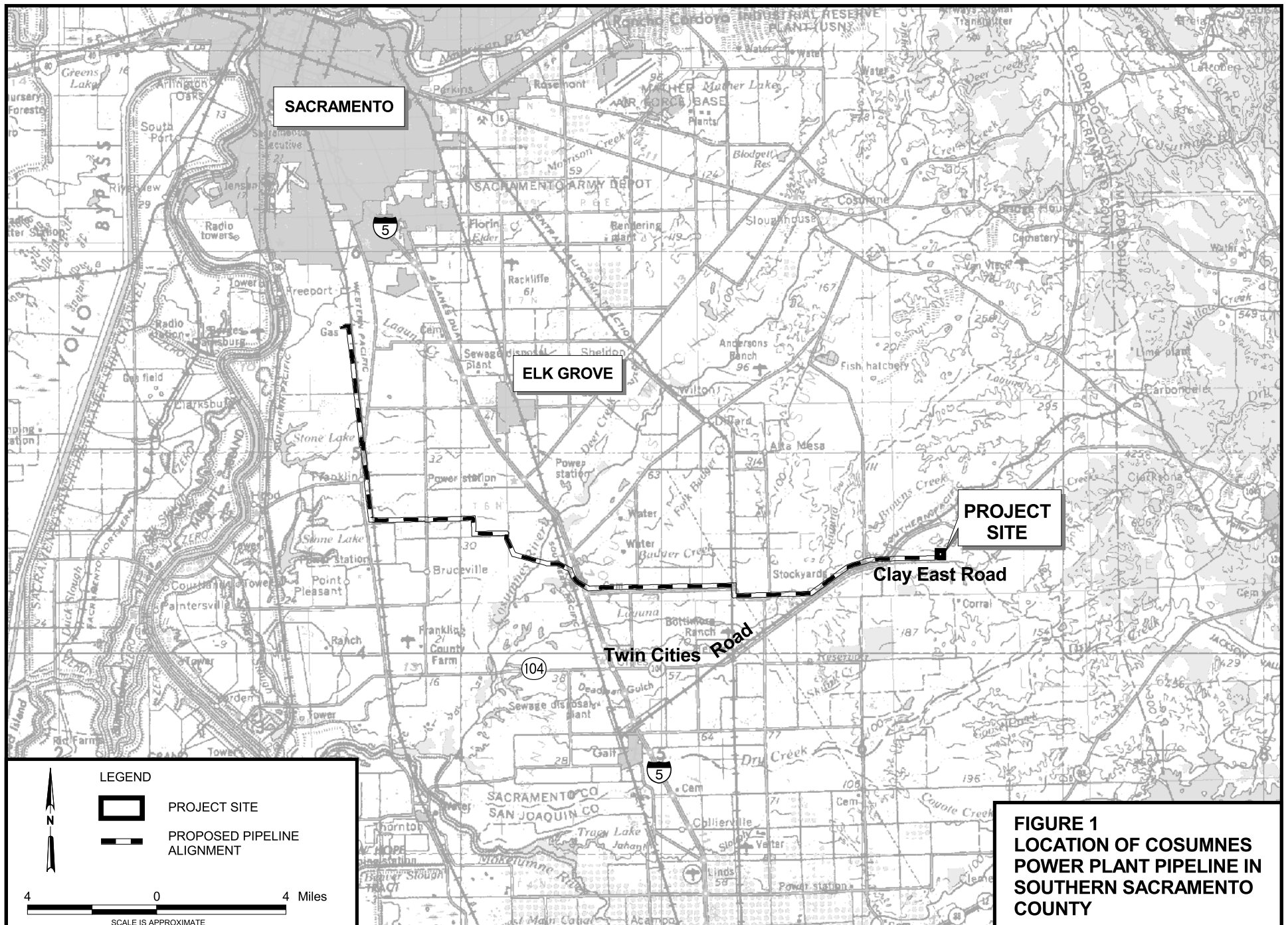
**May 18, 2002**

## INTRODUCTION

The Cosumnes Power Plant Pipeline is a project located in southern Sacramento County that proposes to bury a 26-mile (=41.8-km) long power cable from Carson Cogen near Elk Grove, to Rancho Seco east of the town of Clay (Figure 1). In accordance with requests by California Department of Fish and Game personnel, the following aquatic amphibian and reptile surveys were conducted to determine the presence and potential habitat of special status species within a 5 km distance of either side of the proposed pipeline corridor. Incidental observations of other special status or listed species are also included in this report. Because of known historic distributions in Sacramento County (see distribution maps in Jennings and Hayes 1994 and records in the California Natural Diversity Database), the following State Species of Special Concern aquatic amphibians and reptiles were surveyed for: California tiger salamander (*Ambystoma californiense*) western spadefoots (*Spea hammondi*), and western pond turtle (*Clemmys marmorata*). The giant gartersnake (*Thamnophis gigas*), a Federal and State-listed Threatened Species, was not presumed to occur within the specific survey area of the proposed pipeline route because of the lack of certain suitable aquatic and terrestrial habitats required by this species (U.S. Fish and Wildlife Service 1999). However, we carefully checked any gartersnakes (*Thamnophis* spp.) observed during our surveys in order to confirm if giant gartersnakes could be present within the overall areas we surveyed.

## MATERIALS AND METHODS

The entire pipeline route and all accessible areas within 3.1 miles (=5 km) of either side of the pipeline corridor were surveyed for California tiger salamander larvae and other aquatic amphibians and reptiles during the period of March to April 2002 before weather conditions began to completely dry temporary rain-filled pools and vernal pools in the region. Larval salamanders were surveyed following the protocol of Brode (1997). Other amphibians and reptiles were noted using ocular and road riding survey techniques that have been successfully employed by the authors for the past 2 decades.



All accessible aquatic habitats were surveyed at least twice during the day on April 4, 6, 7, 14, and 19, 2002, and carefully sampled with fine mesh and 0.25-inch (= 0.6-mm) mesh dip nets, as well as a 0.25-inch (=0.6-mm) mesh two-pole seine. All equipment and clothing was cleaned with bleach after each survey utilizing the protocol outlined in Padgett-Flohr (2002). For the purposes of this project, we were largely limited to surveying and sampling aquatic habitats along public roads, railroad right-of-ways, the Cosumnes River Preserve, and the Rancho Seco square because of restrictions by private landowners in the area. However, we were able to survey the entire pipeline corridor and note the potential for any negative effects on special concern or listed species.

In order to organize the results of this report, the areas surveyed are broken down into five major locations:

- 1). Corridor next to the Western Pacific Railway right-of-way (MP 0.00-MP 6.24).
- 2). Corridor north of Eschinger Road to the Cosumnes River (MP 6.24-MP 12.39).
- 3). Corridor from the Cosumnes River to Laguna Road (MP 12.39-MP 21.58).
- 4). Corridor from Laguna Road (along the railroad right-of-way) to the town of Clay (MP 21.58-MP 23.93).
- 5). The Rancho Seco square (area to the north of Clay East Road) [MP 23.93-END].

## RESULTS

No California tiger salamander larvae or western spadefoot larvae were found during any of the surveys. According to records in the California Natural Diversity Database, California tiger salamanders have been located in the Rancho Seco square (Figure 2). There are no records for western spadefoots within the area sampled, although they are present at sites in the southeast part of the County (Jennings and Hayes 1994). Virtually all vernal pools we sampled had been colonized by dozens of juvenile bullfrogs (*Rana catesbeiana*), a voracious predator that was first introduced into California in 1896 (Jennings and Hayes 1985) and is known to consume California tiger salamander larvae, western

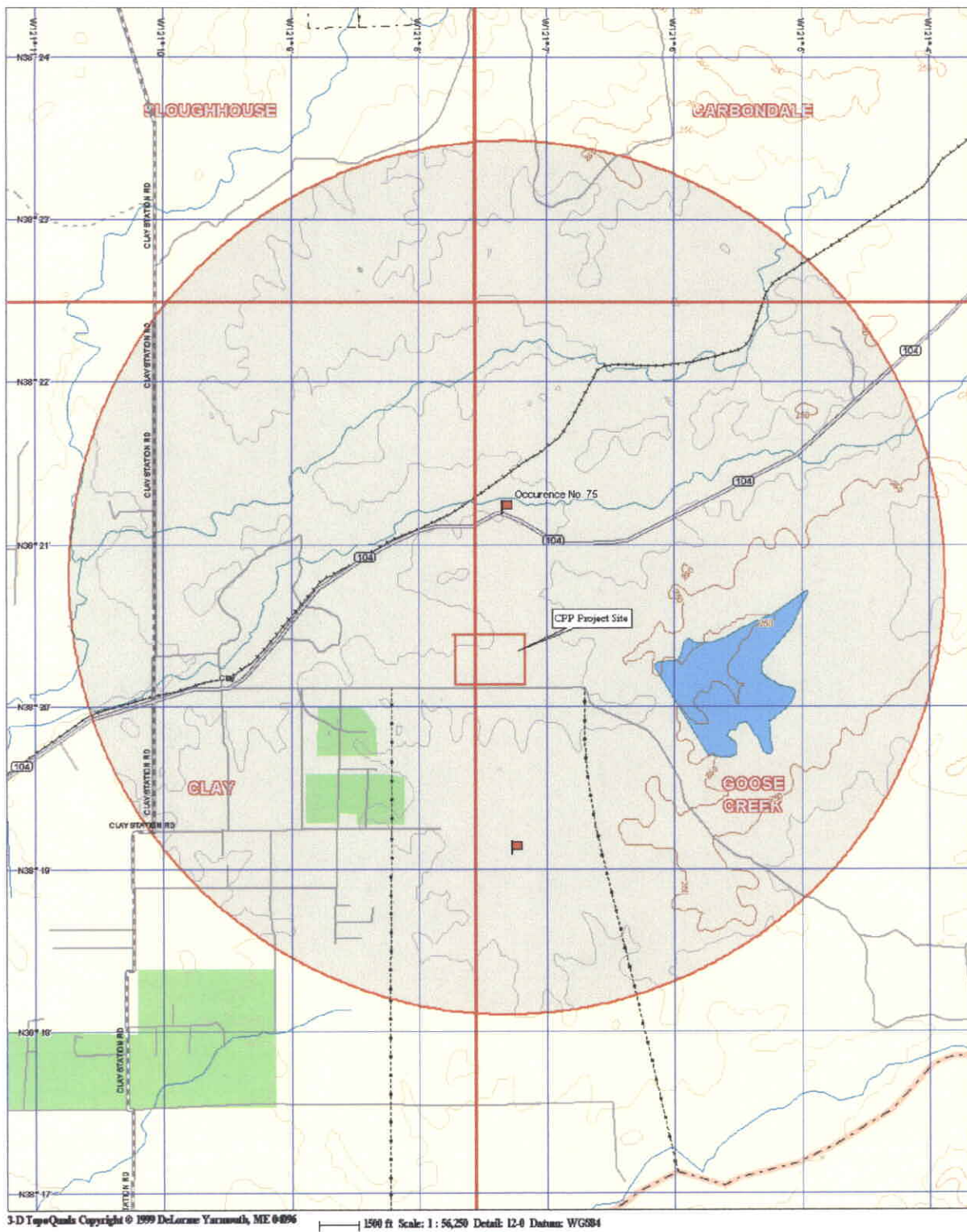


Figure 2. Locations of the two known California tiger salamander observations (red flags) within 3.1 mile (= 5 km) radius of Rancho Seco.



spadefoot larvae, and other special concern amphibians and invertebrates (Morey and Guinn 1992). Bullfrogs are well established on the Central Valley Floor (Moyle 1973) and are present within all perennial aquatic habitats within the survey area where they have built up very large populations.

Besides bullfrogs, we also found the larvae, juveniles, and adults of Pacific treefrogs (*Hyla regilla*) to be present in almost all the aquatic habitats we sampled. Pacific treefrogs have the ability to utilize most types of freshwater aquatic habitats for breeding, as long as these habitats hold water for at least 2 months (Jameson 1956).

For more detailed information of our survey results, they are as follows:

**1). Corridor next to the Western Pacific Railway right-of-way (MP 0.00-MP 6.24) [surveyed on April 4 and 19, 2002]—**

We found only Pacific treefrog larvae in the remaining intermittent aquatic habitats. No other amphibians were found in this area which is undergoing rapid urbanization.

**2). Corridor north of Eschinger Road to the Cosumnes River (MP 6.24-MP 12.39) [surveyed on April 4 and 19, 2002]—**

We found juvenile bullfrogs and larval Pacific treefrogs in the limited roadside aquatic habitats. Fish ponds, stock watering ponds, and other perennial aquatic habitats were observed to contain juvenile and adult bullfrogs, Pacific treefrogs, and introduced fishes including mosquitofish (*Gambusia affinis*), channel catfish (*Ictalurus punctatus*), and bluegill (*Lepomis macrochirus*). There are a number of commercial catfish ponds along this section of the pipeline route. We presume there are probably western pond turtles in the perennial aquatic habitats near the Cosumnes River.

**3). Corridor from the Cosumnes River to Laguna Road (MP 12.39-MP 21.58) [surveyed on April 4, 7, 14, and 19, 2002]—**

We found most of the smaller vernal pools in this region to have dried. However, the larger vernal pools contained bullfrogs in good numbers (of all life stages) and Pacific treefrog larvae, juveniles, and adults. The aquatic habitats are

suitable for western pond turtles and western spadefoots. Two dead valley gartersnakes (*Thamnophis sirtalis fitchi*) were observed on Valensin Road near the site of the Centralia rail stop.

4). Corridor from Laguna Road (along the railroad right-of-way) to the town of Clay (MP 21.58-MP 23.93) [surveyed on April 4, 6, 14, and 19, 2002] —

We found dozens of vernal pools along the railroad right-of-way here (on both sides of the tracks). Historically, this was probably California tiger salamander breeding habitat. However, today this area is full of bullfrog juveniles which have colonized these ponds from nearby perennial aquatic habitats. When present, these juvenile bullfrogs eat almost any living organisms they can consume. Other organisms found include Pacific treefrog larvae, juveniles, and adults, valley gartersnakes, vernal pool fairy shrimp (*Branchinecta lynchi*), California fairy shrimp (*Linderiella occidentalis*), and clam shrimp (*Cyzicus californicus*). The vernal pool fairy shrimp is a Federal and State listed Endangered Species. The perennial aquatic habitats in the area are suitable for western pond turtles and the vernal pool habitats are suitable for western spadefoots.

5). The Rancho Seco square (area to the north of Clay East Road) [MP 23.93-END] [surveyed on April 7, 14, and 19, 2002] —

We found the aquatic habitats in the square (especially the old dredge pond areas) to be largely composed of larval Pacific treefrogs, introduced Louisiana red-swamp crayfish (*Procambarus clarkii*), mosquitofish, smallmouth bass (*Micropterus dolomieu*), and larval, juvenile, and adult bullfrogs. The aquatic habitats are suitable for western pond turtles and the vernal pool habitats are suitable for western spadefoots. Clam shrimp were noted in some of the more ephemeral ponds. Two California vernal pool tadpole shrimp (*Lepidurus packardii*)--a Federal and State-listed species--were located in a large vernal pool on the south side of Clay East Road near the entrance of Dry Creek Ranch in the road right of way. We did not locate any other listed invertebrate species within this area.

## CONCLUSIONS

Based on California Natural Diversity Data Base records and our surveys, it appears that suitable habitat for California tiger salamanders and western spadefoots is present only within survey areas 3, 4, and 5 (*i.e.* the Cosumnes River Preserve, railroad right-of-way, and the Rancho Seco square). However, the presence of abundant bullfrog populations in these three areas severely restricts the ability these species to successfully reproduce and survive in the restricted aquatic habitats available. The presence of introduced fishes and crayfish in permanent and intermittent aquatic habitats are also deleterious to the native amphibian fauna (Jennings and Hayes 1994) and in tandem with bullfrogs, probably limits the successful recruitment of the small population of California tiger salamanders on the Rancho Seco square. Western pond turtles are presumably present within these surveyed areas, but are largely restricted to perennial aquatic habitats outside the pipeline corridor right-of-way. We observed extensive habitat degradation along the proposed pipeline corridor route in areas 3 and 4 due to established roads (where animals can be run over), man-made canals, vineyards, feed lots, residential landscaping, and other agricultural activities. The railroad right-of-way in survey area 4 was disturbed several times by individuals during the month of April by driving ATVs and other vehicles through the vernal pools on both sides of the railroad tracks as they dried. Thus, any organisms present in these pools (such as listed fairy shrimp species) are already being negatively affected by human activities. It is our contention that if the pipeline construction is conducted during the summer-fall months (after all the vernal pools are dry) and the pipeline is buried as it is laid, then there will be no negative effect on any special concern amphibian or reptile species that could potentially inhabit the immediate pipeline right-of-way.

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